UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,451	06/01/2001	Michael Catherwood	18153.0036	8448

23517	7590	06/14/2004

SWIDLER BERLIN SHEREFF FRIEDMAN, LLP
3000 K STREET, NW
BOX IP
WASHINGTON, DC 20007

EXAMINER
PAN, DANIEL H

ART UNIT	PAPER NUMBER
2183	6

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _01 June 2001_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-18_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _9-18_ is/are allowed.

6)☒ Claim(s) _1-6 and 8_ is/are rejected.

7)☒ Claim(s) _7_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _28 September 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _4,5_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

1.   Claims 1-18 are presented for examination.

2.   Claim 9 is objected to because of the following informalities: "may be" (line 18).

Appropriate correction is required. Suggestions : "is", "is able to be", or the like.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-6,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Konopik et al. (4,768,149) in view of Konopik et al. (4,768,149).

4.   As to claim 1, Huang et al.   taught a data processing system including

interruptible instruction comprising at least :

a) fetching a target instruction (e.g. see the MOVS repeated by REP in col.5, lines 29-

30);

b) executing a target instruction a predetermined number of times (see the repeatedly

executed instruction in col.2, lines 25-40);

c) interrupting the execution during an exception [exception] to load a first instruction

(not explicitly shown) of an interrupt routine (see the execution of the repeat instruction

interrupted by exception in col.2, lines 25-40, see also col.6, lines 50-53).

5.   Huang did not specifically show the first instruction of the interrupt service routine was being determined without reference to a program counter as claimed. However, Konopik disclosed a system for pointing to an entry point (the first instruction) of an interrupt service routine by a pointer (e.g. see col.15, lines 38-46). It would have been obvious to one of ordinary skill in the art to use Konopik in Huang for detecting the start (or the first instruction) of the interrupt routine without referencing the program counter as claimed because the use of Konopik could provide the control ability of Huang to adapt to a predetermined set of vector, such as the pointer, instead the program counter for reaching to a subsequent exception processing point, such as the interrupt event, at a shorter cycle, thereby eliminating the refetching of the counter, and it could be achieved by predefining the interrupt service pointer of Konopik into Huang with modified control variables (e.g. the width and type of the linked pointer) recognizable by the configuration file of Huang in order to pass the pointer value, and therefore minimizing the access time of the repeatedly executed instruction, and for the above reasons , provided a motivation.

6.   As to claims 2, Huang also included a repeat instruction [REP] for the target instruction (see col.2, lines 25-40).

7.   As to claim 3, Huang also included a count value for number of times being executed (e.g. see the counter for repeat execution in col.2, lines, 25,26, 35-40).

8.   As to claims 5,8, Huang did not explicitly show the repeat flag, but it showed the repeat instruction [REP] (e.g. see col.2, lines 25-26). Therefore, it must have a flag, or a

signal, for the purpose of starting the repetition of the execution. No specific format of the repeat flag is being recited in the claim, therefore, it is assumed to be any signal for starting the repetition. As to the reset of the flag, it must be reset, otherwise , no distinction could made between repeated and non-repeated executions, therefore, without a flag, or the like, the repetition operation in Huang would not have been properly achieved.

9.   As to claim 6, Huang also continued the execution (e.g. see the continued execution in col.2, lines 37-38).

10.   Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the continued execution after the interrupt when the flag was set without refetching the target instruction.

11.   Claims 9-18 are allowable over the art of record for reciting the combined features of the store and change the loop count in a loop counter register, the prevention of the instruction after the target instruction from being fetched until the loop count reaches or exceeds a predetermined value, and the determination of the first instruction of the interrupt routine without reference to a program counter. See also Paragraph # 2 for minor correction.

12.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Swoboda et al. (5,564,028) is cited for the background teaching of the

repeat loop count value (e.g. see col.13, lines 15-36).

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dan Pan whose telephone number is 703 305 9696.

The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chan, can be reached on 703 305 9712. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

21 Century Strategic Plan

DANIEL H. PAN
PRIMARY EXAMINER
GROUP